

Climate Change and Migration, with Celia McMichael and Jon Barnett

Ashley Ahearn

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Over the past million years humans have migrated in response to food shortages, droughts, ice ages, and many other reasons, but in the coming decades, migrations related to climate change are expected to increase, perhaps dramatically. Different circumstances—be it forced displacement, a planned resettlement, or migration into a city—can present different humanitarian and health adversities, but population movements also can offer benefits for migrants themselves, the communities they left, and the communities where they land. In this podcast, Celia McMichael and Jon Barnett tell host Ashley Ahearn about research and policy steps needed in advance of the rising tide of climate change–related migration.

AHEARN: It's *The Researcher's Perspective*. I'm Ashley Ahearn.

Throughout history human beings have migrated for a lot of different reasons. Over the past million years migrations have happened because of food shortages, droughts, ice ages...

Climate change is nothing new. But for the first time in our history, human beings may be migrating because of climate change for which we ourselves are partly responsible.

That's something our guests Celia McMichael and Jon Barnett have spent a lot of time studying. They coauthored a review for *EHP* that looks at how climate change–related migrations impact human health now and how they could impact human health in the future.ⁱ

Celia McMichael is a lecturer and research fellow at the School of Social Sciences at La Trobe University in Melbourne, Australia.

Hi, Celia.

McMICHAEL: Hi, Ashley.

And Jon Barnett is a political geographer at the University of Melbourne. They're joining me via Skype.

Hi, Jon.

BARNETT: Hi, Ashley.

AHEARN: First of all, let's look at who's impacted. Jon, give me a sense of what we know about how many people are migrating because of climate change.

BARNETT: It's very difficult to say at the moment that anybody is migrating because of climate change. It's hard to detect what the climate change factor in a decision to move is as opposed to all the other factors in decisions to moving, which might be related to seeking better economic opportunities or avoiding dangerous places because of conflict or human rights abuses.

So, a decision to move that a person makes is a complex decision influenced by a range of factors, and one of those factors may be due to environmental changes, and in some cases that could be a fairly significant factor. Whether or not those environmental changes are, in turn, driven by climate change is still very hard to say.

That doesn't mean that climate change is not causing migration. It's probably safe to say, though, that it isn't a major cause of migration at the moment, but a lot of confidence in the literature that it will increasingly become a driver of migration decisions in the future.

AHEARN: So, maybe the question I should be asking you, Jon, is how important is it to get these numbers—to get a handle on how many people are migrating—or should research be focusing on other things?

BARNETT: I think given the complexity of understanding a migration decision now—let alone those that might occur into the future across the face of the earth under conditions of climate change and also under conditions of social, economic, and political change—it's really not very meaningful to try and put a number on this, and that number is always going to be highly questionable, and people have attempted to do this in the past and been wrong.

So, it seems to me the question or the emphasis of where we need to be putting our effort as researchers and as decision makers is not on how many people but rather more what can we be doing about this, recognizing that this is a likely future phenomenon—what are the appropriate policy and institutional responses we need to help manage this phenomenon, you know, that doesn't impact upon any community of people moving or any community to which people might move?

AHEARN: Celia, I'd like to turn to you now. When we talk about dealing with these potential future migrations that may be influenced by climate change, are we talking sudden migrations from extreme weather events or more slow migrations, say, from things like sea-level rise?

McMICHAEL: Our review actually tried to tease out three key ways where there may be climate change-related migration. So, we considered that there could be forced displacement on a relatively large scale associated with environmental disasters such as perhaps floods or extreme wind events, and that might be very short-term and short-distance movement. We also considered that there could be planned resettlement schemes, which have been suggested as one possible adaptive response for low-lying coastal or delta regions that are at threat of rising sea levels in coming decades. And we also considered that there might be an increase in urban migration as the adverse effects of climate change contribute to difficulties in people's place of residence and there's an increasing influx to urban areas.

But all of these are really projected types of migration for the future, so what our review did was consider a diverse set of health risks associated with these three types of migration—that's forced displacement, planned resettlement, and urban migration. But we weren't able to draw on research that exists for people that have moved in response to climate change, but we looked at the literature for people that have made these types of migration decisions in relation to other issues.

AHEARN: And what do we see? What does the literature tell us about the health outcomes?

McMICHAEL: Well, typically these types of movements are actually associated with quite adverse health outcomes. So, for example, if you look at planned resettlement schemes, the

evidence from development-forced displacement literature—so, that is people being resettled in response to large-scale development initiatives such as dams or hydroelectric schemes—in the majority of cases these planned resettlement schemes are associated with poor health outcomes. So, that might be poor mental health or food insecurity or unsafe water supplies or increased infectious diseases.

Our review gave the example of people that were resettled in Ethiopia in the mid-1980s from the famine-affected highlands, and when they were resettled in the lowland areas there was increased exposure to malaria and higher rates of intestinal parasites and yellow fever. So certainly for reasons of health alone, planned resettlement is not necessarily the positive adaptive response that some research has suggested it might be.

AHEARN: So Celia, are we ready to deal with these migrations? Is the public health infrastructure there?

McMICHAEL: I think there's a lot of policy and programmatic responses which can be built upon, but it's important to bear in mind that the majority of this kind of migration is probably going to be in developing regions, either within countries and some maybe across borders. So the health issues that are being faced by migrating populations are going to be in these settings where there's already existing difficulty in that they are underresourced and struggling with populations with a lot of adverse health issues. So I think there's two things to remember, which is, one, there'll be a lot of challenges for health issues given the majority of migration will be within developing regions, but secondly, there are preexisting policy frameworks that can be built upon.

AHEARN: Jon, let's talk a little bit more about that policy. I mean, how is this going to play out if a country is losing its landmass as sea levels rise or running out of arable land during an extended drought? What's to be done from the policy side of things?

BARNETT: I think there's a lot that can be done. This is partly a question of fairly good planning and monitoring of changes and having plans in place. I think if you look to the region where Celia and I are in Australia, and you look at the Pacific Islands, which are very often one of the cases that's talked a lot about here, there's probably actually really a simple effective thing that could be done here now, which would really help, which would be to enable people to move from vulnerable low-lying areas by freeing up the mobility of labor—that is, enabling people who live in the small islands in the Pacific free entry into the Australian and New Zealand labor markets. And this would have a number of benefits: It would enable communities to increase their capacity to adapt to climate change by increasing their income, and so there's lots of evidence to show that migrant workers from the Pacific Islands send home most of their income to islands where they come from [a practice known as “remittance”] and to show that a lot of that consumption that is funded by that money sent home is spent on things like rainwater tanks, educating children, and better health care.

AHEARN: Jon, will everyone be as evenly equipped or as able to adapt? I mean, it's expensive to migrate.

BARNETT: Yeah, I think this is a very important point. The people that can move—particularly long distances—are the people who have the money to afford to move; who have the social networks to understand where to go, how to get there, and how to settle into new destinations; who can navigate borders, get visas, have the education and health standards to cross those borders; and so on. And so, oftentimes—certainly in the Pacific Islands—the people who are able to move are not the people who are most vulnerable, and they are really not the community of

concern from the humanitarian point of view. The community of concern from a humanitarian and health point of view are those who are unable to move because they have the lower incomes and the less adaptive capacity, and they'll be the ones who are remaining in vulnerable areas being affected by climate change with impacts on their livelihoods and health.

AHEARN: Celia, I want to go back to what you were saying about from a biological perspective, with thinking about migration as a positive adaptive measure. How should today's climate change-related human migrations be viewed within that context?

McMICHAEL: Well, I think at a policy perspective, migration is fairly globally now seen as a problem to be managed. And I think that's one of the issues about actually trying to put a number on how many people are going to migrate, because you get these very controversial estimates—saying, for example, there'll be, you know, 250 million people by 2050—that the evidence to actually back that up is quite tenuous. But once a number like that is put out, then it can increase a kind of anxiety at a policy level or a national level about managing migration flows, and I think there's the tendency to have a concern that those migrations will be waves of people migrating from threatened or vulnerable developing regions to developed countries.

But what's more likely is that any climate change-related migration is going to be along the lines of existing migratory patterns, and they are typically within developing regions. So I think at a policy level the point is to look at migration not as a problem that needs to be managed, including by undeveloped countries, but [as] part of an adaptation portfolio, with this issue in mind that migration can have adverse outcomes, including health outcomes. So it *will* have some benefits in that it reduces people's vulnerability or allows remittances to be sent back to communities that are at risk of the adverse effects of climate change—so there'll be some positives associated with migration, and in that way it should be supported. But it needs to be supported with the understanding in mind that migration itself has some adverse outcomes, such as changes to infectious disease or loss of social capital and social cohesion that's associated with migration to new areas.

AHEARN: What further research do you both feel is necessary to better understand and prepare for these climate change-related migrations or movements in the future? Celia?

McMICHAEL: As we found doing this review, there's very little research that looks at this kind of intersection of climate change and migration and health risks, and as we've been discussing, that is in part due to the fact that this is quite an early stage, and you can't clearly attribute migration to climate change at this point necessarily.

Having said that, I think there is a need for research and data collection systems that can capture information relating to this kind of movement associated with climate change and the health indicators and needs that might be related to that.

AHEARN: Jon?

BARNETT: I think there's still a question about the effect of environmental change on migration decisions in general. In fact, the literature on this is not very broad and deep. Given the scale of the potential problem, I think we ought to know this better. Secondly, I think we really need to be monitoring for these changes in places we think that may be more likely to be affected by climate change; we need to be probably monitoring population movements better than we do.

I think there's a very critical issue here about property rights and the sharing of property and the targeting of resources to communities where people end up moving to. There's a lot of evidence that shows that when those policies are done right and the benefits are shared, then movements of people into new communities can be very successful. But conversely, when that isn't done very well, they can lead to very significantly adverse social outcomes.

Finally, I think the benefits of mobility as an adaptation strategy really require a lot more research, and so we need to understand much more about under what circumstances where people may move, that [moving] contributes to reducing their vulnerability as well as reducing the vulnerability of the places they come from. And that's a range of questions about citizenship, remittances, consumption expenditure [i.e., household spending on goods and services], social networks, knowledge, and leadership, and so on that goes with those kinds of forms of mobility. And, and so if we're going to use mobility as an adaptation strategy, then I think we need to understand how it works much better than we currently do.

AHEARN: Jon, Celia, thanks so much for joining me.

BARNETT: Thanks, Ashley.

McMICHAEL: Thanks, Ashley.

AHEARN: Celia McMichael is a research fellow at the School of Social Sciences at La Trobe University in Melbourne, Australia. And Jon Barnett is a political geographer at the University of Melbourne.

And that's *The Researcher's Perspective*. I'm Ashley Ahearn. Thanks for downloading.

Ashley Ahearn, host of *The Researcher's Perspective*, has been a producer and reporter for National Public Radio and an Annenberg Fellow at the University of Southern California specializing in science journalism.

References

ⁱ McMichael C, et al. An ill wind? Climate change, migration, and health. *Environ Health Perspect* 120(5):646–654 (2012); <http://dx.doi.org/10.1289/ehp.1104375>.